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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,101

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EXAMINER

CHOI, WILLIAM C


ART UNIT

PAPER NUMBER

2873

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,101	<b>Applicant(s)</b> NITO ET AL.	
	<b>Examiner</b> William C. Choi	<b>Art Unit</b> 2873	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20,23,24,29-31,49,52-60,87,90,91,96-98,125 and 128-136 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49,52-60,125 and 128-136 is/are allowed.
- 6) ☒ Claim(s) 20,23,24,29-31,87,90,91 and 96-98 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/711,651.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1205</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20 (and dependent claims 23, 24 and 29-31) and 87 (and dependent claims 90, 91 and 96-98) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically in lines 6-7 of claims 20 and 87, applicant discloses wherein said modulation apparatus comprises “a polarizing plate disposable in an optical path...”. From the claim language, “disposable”, it is unclear as to whether said apparatus specifically includes a polarizing plate or not, since either can be assumed from the language used, thereby rendering the claim vague and indefinite. For purposes of examination, the latter was assumed and therefore, the limitation was not treated on the merits. Claims 23, 24, 29-31, 90, 91 and 96-98 inherit the rejection from their respective parent claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 20, 23, 31, 87, 90 and 98 are rejected under 35 U.S.C. 102(e) as being anticipated by Hatano (U.S. 6,549,185 B1).

In regard to claims 20 and 87, Hatano discloses a light modulation apparatus comprising: a liquid crystal device (column 5, lines 48-59, Figure 1); and a pulse control unit for changing the transmittance of light made incident on said liquid crystal device from a current transmittance into a target transmittance by sequentially applying at least two distinct drive pulses to said liquid crystal device (column 6, line 63 – column 7, line 27, Figure 3(A, B), “130 V, V<sub>2</sub>”); wherein said at least two drive pulses include a first drive pulse having a first pulse height and a first pulse width (Figure 3(A), “130 V”) and a second drive pulse having a second pulse height and a second pulse width (Figure 3(A), “V<sub>2</sub>”); and wherein the first pulse height is greater than the second pulse height (Figure 3(A), “130 V, V<sub>2</sub>”).

Regarding claims 23 and 90, Hatano discloses wherein said apparatus further comprises a drive circuit unit, wherein the pulses are generated in synchronization with

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a clock generated by said drive circuit unit (column 8, line 66 – column 9, line 13, Figure 8, “B”, 63”).

Regarding claims 31 and 98, the drive electrode of said liquid crystal device of Hatano would inherently be formed at least over the entire region of an effective light transmission portion, this being reasonably assumed from Hatano disclosing wherein said drive electrodes (i.e. ITO) are arranged on the inner sides of the glass plates enclosing said device and wherein said electrodes serve as the conductive interface for both sides of the liquid crystal (column 5, lines 50-52, Figure 1, “2”).

### ***Allowable Subject Matter***

Claims 49, 52-60, 125, 128-136 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claims 49, 52-60: an image pickup apparatus comprising a light modulation apparatus including a liquid crystal device and a pulse control unit as claimed, specifically wherein said control unit sequentially applies at least two distinct drive pulses wherein said first pulse height or width is greater than that of the second pulse and wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

The prior art fails to teach a combination of all the claimed features as presented in claims 125 and 128-136: a method of driving an image pickup apparatus in which a liquid crystal device of a light modulation apparatus is disposed in, comprising changing

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the transmittance of incident light on said liquid crystal device by sequentially applying at least two distinct drive pulses to said device as claimed, specifically wherein said first pulse height or width is greater than that of the second pulse and wherein said light modulation apparatus is disposed in an optical path of an optical system of said image pickup apparatus.

Claims 24, 29-30, 91, 96 and 97 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach a combination of all the claimed features as presented in claims 24 and 91: a light modulation apparatus and method of driving thereof, comprising a liquid crystal device and a pulse control unit as claimed, specifically wherein luminance information of the light emerged from said liquid crystal device is fed back to said control unit and the drive pulses are generated in synchronization with said clock.

The prior art fails to teach a combination of all the claimed features as presented in claims 29, 30, 96 and 97: a light modulation apparatus and method of driving thereof, comprising a liquid crystal device and a pulse control unit as claimed, specifically further comprising a polarizing plate that is movable into and out of an optical path of light made incident on said liquid crystal device.

### ***Response to Arguments***

Applicant's arguments filed 11/18/2005 have been fully considered but they are not persuasive. As already discussed above, applicant's amended claim language discloses wherein a polarizing plate is "disposable" in an optical path. Such language is indefinite and can be interpreted as being disposed or not disposed, since it only indicates a potential or possible condition. The original language of the objected claims 28 and 95 indicated wherein said plate was "disposed" in said path; a definite structural limitation. Applicant is encouraged to include such language if that is what they are trying to claim.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W.C.  
William Choi  
Patent Examiner  
Art Unit 2873  
January 30, 2006

  
Hung Yuan Song  
Patent Examiner